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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,479	02/02/2001	Robert L. Bratzler	C1037/7013 (HCL/MAT)	7139

7590 09/25/2003

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EXAMINER	
MINNIFIELD, NITA M	
ART UNIT	PAPER NUMBER
1645	9

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/776,479	BRATZLER ET AL.	
	Examiner	Art Unit	
	N. M. Minnifield	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-19 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-19 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892) 6 sheets
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Applicant's election of Group II, claims 12-19 and 36, in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Applicants' amendment to claims in response to the restriction requirement filed June 30, 2003 is acknowledged and has been entered. Claims 1-11 have been canceled.

3. Claims 12-19 and 36 are now pending in the application and will be examined.

4. The disclosure is objected to because of the following informalities: there are two "Table 1" in the specification, see pages 12-33 and pages 54-55.

Appropriate correction is required.

5. Claim 36 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 36 is vague and indefinite in the recitation of "substantially prior to"; what are the metes and bounds of "substantially"? How close to the asthmatic or allergic event should the immunostimulatory nucleic acid be administered to the subject, particularly when a subject cannot predict when the asthmatic or allergic event will occur?

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 12-18 and 36 are rejected under 35 U.S.C. 102(a) as being anticipated by Raz et al (WO 01/02007, publication date January 11, 2001).

It is noted that the effective filing date of the pending application is February 2, 2001. Provisional application 60/179991 only discloses SEQ ID NO: 1-133, whereas the pending application discloses SEQ ID NO: 1-1093. February 2, 2001 is the first date in which the claimed invention is disclosed.

The claims are directed to a method of administering an immunostimulatory nucleic acid (which can be CpG) to a hypo-responsive subject having asthma or

allergy or at risk of developing asthma or allergy for treating or preventing asthma or allergy. The claims also recite that the immunostimulatory nucleic acid has a modified backbone (phosphate modified backbone, phosphorothioate modified backbone).

Raz et al disclose that an immunostimulatory nucleotide sequence (i.e. an immunostimulatory nucleic acid) can be administered to a subject via mucosal or systemic route (abstract). Raz et al discloses that the immunostimulatory nucleic acid can be administered to the subject at least one hour prior to exposure to the antigen/allergen (i.e. administering to a subject at risk of developing asthma or allergy, administering to a subject prior to an asthmatic or allergic event) (see abstract; p. 3; p. 6; p. 9; p. 13; claims). Raz et al disclose that the immunostimulatory nucleic acid has a modified phosphate backbone, phosphorothioate modified backbone (pp. 10-11).

9. Claims 12-14, 18 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Kline et al 1997 (J. Invest. Med., 45/7:298A) or Broide et al 1999 (Int. Arch. Allergy Immunol., 118:453-456).

Kline et al 1997 (J. Invest. Med., 45/7:298A) discloses the administration of CpG, an immunostimulatory nucleic acid, to a subject. The prior art examined the effects of CpG in a murine model of asthma and found that CpG can prevent airway inflammatory upon allergen inhalation. Kline et al discloses that CpG may be useful in immunotherapy to prevent or treat asthma (abstract).

Broide et al 1999 discloses methods of administering an immunostimulatory nucleic acid, for example CpG, to a subject (abstract). Broide et al discloses the immunostimulatory nucleic acids induce Th1 cytokine production and inhibited

Th2 cytokine production as well as eosinophilic inflammation when ISS was administered before inhaled allergen challenge (abstract; materials and methods (p. 454; results, p. 454; Tables 1 and 2).

10. Claims 12-18 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Broide et al 1998 (J. Immunology, 161:7054-7162).

Broide et al discloses a mouse model to allergy to demonstrate that ISS, CpG, significantly inhibits allergic reaction and that ISS was able to redirect the immune system toward a Th1 response (abstract). Systemic or mucosal administration of ISS before allergen exposure could provide a novel form of active immunotherapy in allergic diseases (abstract; p. 7054, col. 2; p. 7061, col. 2; p. 7062, col. 1). Broide et al discloses methods of administering a CpG (phosphorothioate ISS-ODN) to a subject before exposure to an allergen (materials and methods, p. 7055; results).

11. Claims 12-19 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Krieg et al (WO 98/18810) or Schwartz et al (WO 95/55495).

Krieg et al discloses administering an immunostimulatory nucleic acid to a subject to treat or prevent allergies (p. 9; claims; p. 63). Krieg et al discloses that the ISS has a modified phosphate backbone or phosphorothioate backbone modification (claims). Krieg et al discloses that the immunostimulatory nucleic acid is a T-rich nucleic acid (see claims).

Schwartz et al discloses immunostimulatory oligonucleotide compositions that can be administered to a subject in need of immune modulation (abstract; claims; p. 24). The subject may be suffering from allergic disease such as asthma

(claims). The ISS can be phosphorous based modified oligonucleotide (p. 20; p. 11).

12. Claims 12-19 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Krieg et al (6124806 or 6239116), Davis et al (6406705) or Raz (6498148).

Krieg et al (6124806), for example, discloses administration of CpG, an immuno-stimulatory nucleic acid, to a subject to treat pulmonary disorders, such as asthma or environmentally induced airway disease (abstract; col. 3; example 2, col. 17; example 8, cols. 28-30; claims). Krieg et al disclose that the oligonucleotide may have phosphate backbone modifications, phosphorothioate backbone modifications (col. 8) or that the oligonucleotide may be T-rich (col. 9).

Krieg et al (6239116), for example, discloses administration of CpG, an immuno-stimulatory nucleic acid, to a subject (abstract; claims; cols. 45-46) to treat, prevent or ameliorate other disorders, which include asthmatic disorders or allergic reaction associated with an asthmatic disorder (cols. 6-7; col. 9-10; example 12, cols. 54-55). Krieg et al disclose that the oligonucleotide may have phosphate backbone modifications, phosphorothioate backbone modifications (col. 12) or that the oligonucleotide may be T-rich (col. 12).

13. No claims are allowed.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. M. Minnifield whose telephone number is 703-305-3394. The examiner can normally be reached on M-F (8:00-5:30) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette R.F. Smith can be reached on 703-308-3909. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

N. M. Minnifield
Primary Examiner
Art Unit 1645

NMM
September 20, 2003